Amendments to the Claims

We claim:

1. (currently amended) A CA125 molecule, comprising:

(a) an extracellular amino terminal domain, comprising 5 genomic exons, wherein exon ~~exons~~ 1 comprises amino acids #1-33 of SEQ ID NO: 299, exon 2 comprises amino acids #34-1593 of SEQ ID NO: 299, exon 3 comprises amino acids #1594-1605 of SEQ ID NO: 299, exon 4 comprises amino acids #1606-1617 of SEQ ID NO: 299, and exon 5 comprises amino acids #1618-1637 of SEQ ID NO: 299;

(b) a multiple repeat domain, wherein each repeat unit comprises 5 genomic exons, wherein exon 1 comprises amino acids #1-42 in any of SEQ ID NOS: 164 through 194; exon 2 comprises amino acids #43-65 in any of SEQ ID NOS: 195 through 221; exon 3 comprises amino acids #66-123 in any of SEQ ID NOS: 222 through 249; exon 4 comprises amino acids #124-135 in any of SEQ ID NOS: 250 through 277; and exon 5 comprises amino acids #136-156 in any of SEQ ID NOS: 278 through 298; wherein at least one repeat unit comprises SEQ ID NO:150; and

(c) a carboxy terminal domain comprising a transmembrane anchor with a short cytoplasmic domain, and further comprising 9 genomic exons, wherein exon 1 comprises amino acids #1-11 of SEQ ID NO: 300; exon 2 comprises amino acids #12-33 of SEQ ID NO: 300; exon 3 comprises amino acids #34-82 of SEQ ID NO: 300; exon 4 comprises amino acids #83-133 of SEQ ID NO: 300; exon 5 comprises amino acids #134-156 of SEQ ID NO: 300; exon 6 comprises amino acids #157-212 of SEQ ID NO: 300; exon 7 comprises amino acids #213-225 of SEQ ID NO: 300; exon 8 comprises amino acids #226-253 of SEQ ID NO: 300; and exon 9 comprises amino acids #254-284 of SEQ ID NO: 300.

2. (original) The CA125 molecule according to claim 1, wherein N-glycosylation sites of the amino terminal domain marked (x) in FIG. 8B are encoded at positions #81, #271, #320, #624, #795, #834, #938, and #1,165 in SEQ ID NO: 299.

3. (original) The CA125 molecule according to claim 1, wherein the serine and threonine O-glycosylation pattern for the amino terminal domain is marked (o) in SEQ ID NO: 299 in FIG. 8B.

4. (canceled).

5. (currently amended) The CA125 molecule according to claim 1, wherein the multiple repeat domain comprises 156 amino acid repeat units which comprise epitope binding sites.

6. (previously presented) The CA125 molecule according to claim 5, wherein the epitope binding sites are located at least in part in the C-enclosure at amino acids #59-79 (marked C-C) in SEQ ID NO: 150 in FIG. 5.

7. (currently amended) The CA125 molecule according to claim 5, wherein the 156 amino acid repeat unit comprises O-glycosylation sites at positions #128, #129, #132, #133, #134, #135, #139, #145, #146, #148, #150, #151, and #156 in SEQ ID NO: 150 in FIG. 5 ~~5C~~.

8. (currently amended) The CA125 molecule according to claim 5, wherein the 156 amino acid repeat unit comprises N-glycosylation sites at positions #33 and #49 in SEQ ID NO: 150 in FIG. 5 ~~5C~~.

9. (currently amended) The CA125 molecule according to claim 5, wherein the 156 amino acid repeat unit comprises at least one conserved methionine (designated M) at position #24 in SEQ ID NO: 150 in FIG. 5 ~~5C~~.

10. (currently amended) The CA125 molecule according to claim 1, wherein the transmembrane ~~domain~~ anchor of the carboxy terminal domain is located at positions #230-252 (underlined) in SEQ ID NO: 300 of FIG. 9B.

11. (currently amended) The CA125 molecule according to claim 1, wherein the cytoplasmic domain of the carboxy terminal domain comprises a highly basic sequence adjacent to the transmembrane anchor at positions #256-260 in SEQ ID NO: 300 of FIG. 9B, serine and threonine phosporylation sites at positions #254, #255, and #276 in SEQ ID NO: 300 in FIG. 9B, and tyrosine phosphorylation sites at positions #264, #273, and #274 in SEQ ID NO: 300 of FIG. 9B.

12-34. (canceled)

35. (new) The CA125 molecule according to claim 5, wherein the epitope binding sites include amino acid residue #76 of SEQ ID NO:150.

36. (new) The CA125 molecule according to claim 5, wherein the epitope binding sites include amino acid residue #68 of SEQ ID NO:150.